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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/553,454	04/19/2000	Trevor Merry	13587.2	3787

22913 7590 01/02/2004

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EXAMINER
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TRAN, ELLEN C

ART UNIT	PAPER NUMBER
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2134

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PRG

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/553,454	MERRY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ellen C Tran	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-410)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2 &amp; 4</u> . | 6) <input type="checkbox"/> Other: _____                                    |

  
**NORMAN M. WRIGHT**  
**PRIMARY EXAMINER**

***DETAILED ACTION***

1. This action is responsive to communication: original application filed 14 April 2000 with a foreign priority date of 16 April 1999.
2. Claims 1-18 are currently pending in this application. Claims 1, 4, 10, and 13 are independent claims.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 4-5 and 13-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Alasia U.S. Patent No. 5,708,717 (hereinafter '717).

**As to independent claim 13**, "An image decoding method for identifying one or more latent source images from a security device image comprising at least an encrypted image and a deflected image which are overlaid, said decoding system comprising" is taught in '717 col. 2 lines 6-9 "The present invention provides a software method and apparatus for digitally scrambling and incorporating latent images into a source image. The latent image in digitized form can be scrambled for decoding by a variety of lenticular lenses as selected by the user, with each lens having different optical properties such as different line densities per inch" (i.e. "coding" same as "scrambling");

“(a) means for separating said overlaid encrypted and deflected images” is disclosed in ‘717 col. 2 lines 13-17 “Different degrees of scrambling might also be selected wherein the latent image is divided up into a higher multiplicity of lines or elements. For decoding purposes, the multiplicity of elements would be a function of the lens density”;

“(b) decryption decoding means comprising means for applying to said encrypted image the decryption function corresponding to the encryption function used to produce said encrypted image and producing therefrom a decrypted image, said decrypted image corresponding either to one of said source images or a deflected image” is taught in ‘717 col. 2, lines 8-10 “The latent image – in digitized form-can be scrambled for decoding by a variety of lenticular lessees as selected by the user”;

“(c) deflection decoding means comprising means for applying to said deflected image, or to said decrypted image if said decrypted image corresponds to a deflected image, a software lens corresponding to the software lens used to produce said deflected image and producing therefrom a deflection decoded image.” is shown in ‘717 col. 2, lines 17-20 “The source image is then rasterized, or divided up into a series of lines equal in number to the lines making up the scrambled latent images. Generally, when hard copy images are printed, the image is made up of a series of “printers dots” which vary in density according to the colors found in the various component parts of the image”.

**As to independent claim 4,** “A computer operated encoding system” of the method of claim 13 and is therefore rejected under the same rationale stated above.

**As to dependent claims 5 and 14**, “further comprising means for aligning said software lens with said deflected image to identify whether one of said source images corresponds to said deflection decoded image” is shown in ‘717 col. 2, lines 33-34 “However, since the component rasterized lines are formed in the coded pattern of the scrambled latent image, a decoder will reveal the underlying latent image” (i.e. “aligning” same as “coded pattern”).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 10, 1, 11, 12, 2, and 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over ‘717 in view of Koltai et al., U.S. Patent No. 6,104,812 (hereinafter ‘812).

**As to independent claim 10**, “An image encoding method for producing an electronic security device image from one or more electronic source images, said security device image being adaptable for printing onto a document to secure said document against data alteration, said system comprising: (a) deflection encoding means comprising means for applying a selected software lens to one of said source images and producing a deflected image” is taught in ‘717 col. 1, lines 5-9 “This invention relates generally to a method and apparatus, as implemented by a software

program on a computer system, for producing counterfeit-detering scrambled or coded indicia images, typically in a printed form. This method and system are capable of combining a source image with a latent image so the latent image is visible only when viewed through a special decoder lens" (i.e. "electronic security device image" same as "coded indicia images") and (i.e. "secure said document against data alteration" same as "counterfeit-detering") and (i.e. "latent image" same as "deflected image");

- "(b) encryption encoding means comprising means for applying an encryption function to said deflected image or one of said source images and producing an encrypted image; (c) means for overlaying said deflected and encrypted images and producing therefrom said security device image" is taught in '717 col., 1 line 63 thru col.2, line 2 "Additionally, a system is needed whereby scrambled latent images can be integrated into a source image, or individual color component thereof, so that the source image is visible to the unaided eye and the latent image is visible only upon decoding. Also needed is the ability to incorporate multiple latent images, representing different "phases", into the source image for added security" (i.e. "encryption encoding" same as "scramble latent images");

- "whereby said deflected image may be detected from said security device image both by means of a manual lenticular lens corresponding to said software lens applied to a printing of said security image" is taught in '717 col. 1, lines 5-11 "coded indicia images, typically in a printed form ... latent image is visible only when viewed through a special decoder lens"; **the following is not taught in the exact terminology in '717:**

- "and by means of computer decoding processing applying said software lens and said encrypted image may be detected from said security device image solely by means of computer decoding processing applying a decryption function corresponding to said encryption function" however '812 teaches "the hidden image is only readable digitally using a software based filter" (i.e. "solely" same as "only") and (i.e. "computer decoder processing" same as "software based filter".

- It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of producing counterfeit-detering images taught in '717 to include a method only allowing a computer based program to decode the images created. One of ordinary skill in the art would have been motivated to perform such a modification to increase security of printed documentation see '812 (see col. 3, lines 55 et seq.) "In view of the shortcoming of the prior art, it is an object of the present invention to increase the security and anti-counterfeiting capabilities of a variety of media, ... so that the secondary image is visible to a viewer only when a decoder is used".

**As to independent claim 1**, "A computer operated encoding system" of the method of claim 10 and is therefore rejected under the same rationale stated above.

**As to dependent claims 11**, "wherein said security device image includes a plurality of said deflected images, said deflected images being interlaced to form an interlaced image and said interlaced image being overlaid with said encrypted image" is taught in '717 col. 2, lines 39-44 "As a result of this digital approach, several different

latent images can be scrambled and combined into an overall latent image, which can then be reformed into the rasterized source image. This is achieved by dividing the rasterized lines into the appropriate number of images (or phases) and interlacing the phased images in each raster line element."

**As to dependent claims 12**, "wherein said software lens is selected from the group comprising line lenses, curved lenses and bitmap lenses" is shown in '717 col. 2, lines 7-13 and col. 4, lines 43-46 "The latent image--in digitized form--can be scrambled for decoding by a variety of lenticular lenses as selected by the user, with each lens having different optical properties such as different line densities per inch, and/or a different radius of curvature for the lenticulas." and "Yet another objective of the present invention is to provide a counterfeit-deterrent method and apparatus, as implemented by a software program on a computer system, wherein a bitmap source image is used (instead of a gray scale image) to create hidden images behind single color source images or sections of source images".

**As to dependent claims 2 and 3**, both are dependent on claim 1 "A computer operated encoding system" of the method of claim 10 and are therefore rejected under the same rationale stated above for claims 11 and 12 respectively.

7. **Claims 6-9 and 15-18** are rejected under 35 U.S.C. 103(a) as being unpatentable as applied to claims 4 and 13, over '717 in view of Brosh et al. U.S. Patent No. 5,303,370 (hereinafter '370) and in further view of '812.

**As to dependent claims 6 and 15**, the following is not taught in exact terminology in '717 "wherein said aligning means comprises evaluation means for



evaluating whether said deflection decoded image corresponds to said source image,” however ‘370 teaches “To verify that the card is genuine, the user views the encrypted image through the authenticator. If the encrypted image has been counterfeited or tampered with, it will be immediately evident, as the image will not be decoded or will appear with superimposed black lines. As a further check on the authenticity of the encrypted image, the color mask may be so arranged that when the authenticator is rotated 90 degrees, the user observes a rainbow pattern, and the image of the indicium returns to its encrypted form” in col. 2 lines 41-50.

- It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of producing counterfeit-detering images taught in ‘717 to include an authentication method. One of ordinary skill in the art would have been motivated to perform such a modification to provide a useful invention to prevent counterfeiting see ‘370 (see col. 1, lines 6 et seq.) “This invention is useful in a wide variety of applications including authenticating the origin of branded merchandise or identification cards”.

- The following is not taught in **exact terminology** in the combinations of teaching of ‘717 and ‘370 “wherein said, evaluation means operates iteratively with said deflection decoding means to apply on each iteration either a different position of said software lens or other different lens parameter, until either said decoded image is determined to correspond to said source image or all available lens positions and/or parameters have been applied” **however** “the encoding and decoding software may be user programmable” is taught in ‘812 col. 5, lines 49-50.

- It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of producing and authenticating counterfeit-detering images taught in '717 and '370 to include an interactive method of decoding images. One of ordinary skill in the art would have been motivated to perform such a modification to increase security of printed documentation see '812 (see col. 3, lines 55 et seq.) "In view of the shortcoming of the prior art, it is an object of the present invention to increase the security and anti-counterfeiting capabilities of a variety of media, ... so that the secondary image is visible to a viewer only when a decoder is used".

**As to dependent claims 7 and 16,** "wherein said evaluation means uses a scoring algorithm to calculate a score based on pixel statistics calculated for each iteratively produced deflection decoded image" is taught in '812 col. 11, lines 7-26 "the characteristics of the decoding device, such as simple optical decoders for reading optical codes made on the principle of a simple optical filter with different geometrical forms using periodical or random filtering patterns complex optical decoders for reading optical codes with different optical (magnifier, reverse, prismatic diminishing etc.) effects simple electronic decoders for reading optical codes with software simulation of functions of the optical decoders without electronic recognition advanced electronic decoders for reading optical codes with software simulation of functions of the optical decoders with electronic recognition complex user programmable electronic decoders for reading direct digital codes which are also programmable by the users".

**As to dependent claims 8 and 17**, “wherein said deflection decoded image is determined to correspond to said source image when a relatively large change occurs in said score from one said iteration to the next” is shown in ‘370 col. 2, lines 46-50 “As a further check on the authenticity of the encrypted image, the color mask may be so arranged that when the authenticator is rotated 90 degrees, the user observes a rainbow pattern, and the image of the indicium returns to its encrypted form”.

**As to dependent claims 9 and 18**, “further comprising means for outputting either said deflection decoded image when it has been determined to correspond to said source image or an error message if no such determination is made” is disclosed in ‘812 col. 12 lines 47-53 “The process detects errors relating to each selection, and displays an appropriate error message. Based upon the input settings selected, the various operations will be performed, e.g. hide one secondary image and save the results to an output file”.

### ***Conclusion***


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (703) 305-8917. The examiner can normally be reached on 6:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Gregory A Morse can be reached on (703) 308-4789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5484.

  
NORMAN M. WRIGHT  
PRIMARY EXAMINER

EEG

24 DEC 2003